

REMARKS

Claims 1 and 3-6 are pending in this application. By this Amendment, claims 1 and 3-6 are amended and claims 2, 7 and 8 are cancelled without prejudice or disclaimer. Support for the amendments to claim 1 can be found at least in original claims 2, 7 and 8. Claims 3-6 are amended for form. No new matter is added.

Claims 1-8 are rejected under 35 U.S.C. §103(a) over Dickey et al. (U.S. Patent No. 6,240,588). The rejection of canceled claims 2, 7 and 8 is moot, and the rejection of claims 1 and 3-6 is respectfully traversed.

Dickey fails to teach and would not have rendered obvious the claimed combination of features recited in independent claim 1. For example, Dickey fails to teach and would not have rendered obvious "a diameter of the bore is 10 to 20 mm, a diameter of the small holes is 2.5 to 5 mm, and a total of cross-sectional areas of the plurality of the small holes is 1.2 to 5 times larger than a cross-sectional area of the bore," as recited in independent claim 1 (emphasis added).

The core of claim 1 is the type inserted into soft sponge rollers that are used to clean semiconductor wafers, for example. As discussed in the specification, the core of claim 1 solves the problem that "[i]n the conventional devices, however, there was a problem that the supply of a cleaning fluid from a core to a sponge roller was extremely nonuniform, and thus it was difficult to flow out the cleaning fluid evenly over the outer surface of the roller. Furthermore, in the cleaning step a plurality of different types of cleaning fluid are often used in turn, and when the cleaning fluid in use is changed to another cleaning fluid, there is a problem that the cleaning fluid previously used remains in the bore of a core or in a cleaning sponge roller, and it took a long time to change the cleaning fluids" (see, page 3, lines 11-17 of Applicant's specification).

The core of claim 1 makes it possible to evenly distribute a cleaning liquid throughout the outer surface of the core to uniformly feed a cleaning liquid to a sponge roller, and also makes it possible to quickly replace or change a cleaning liquid inside the core.

The Office Action acknowledges that Dickey fails to teach the claimed ranges of claims 2, 7 and 8, now recited in independent claim 1 (see pages 2 and 3 of the Office Action). The Office Action instead asserts that it would have been obvious to select the above ranges because "discovering the optimum or workable ranges involves only routine skill in the art" (see page 3 of the Office Action). However, the advantages discussed above are obtained because of the claimed combination ranges of independent claim 1. That is, the advantages discussed above are obtained only when:

(1) a diameter of the bore is 10 to 20 mm, (i.e., when the cross-sectional area of the bore, which is proportional to a square of the diameter, is large as compared to that of Dickey's cores;

(2) the diameter of the small holes is 2.5 to 5 mm (also larger than Dickey's holes);
and

(3) the total of cross-sectional areas of the plurality of the small holes is 1.2 to 5 times larger than a cross-sectional area of the bore (also not disclosed by Dickey) (see also page 4, line 23 - page 5, line 13 of Applicant's specification).

In the configuration of claim 1, although the diameter of the bore is very large, the total of cross-sectional areas of the plurality of the small holes is set larger than a cross-sectional area of the bore. Using the conventional wisdom, as demonstrated by Dickey, when a person of ordinary skill wants to distribute or replace a cleaning liquid as quick as possible, the person of ordinary skill would consider making a cross sectional area in a downstream side smaller so as to increase a pressure of liquid. However, the core of claim 1 requires the opposite structure. In the core of claim 1, the pressure of the liquid in the bore is not

increased, but is fed gently to a sponge roller and the rectification action for the liquid is done by the sponge roller (see page 5, lines 6-13 of Applicant's specification).

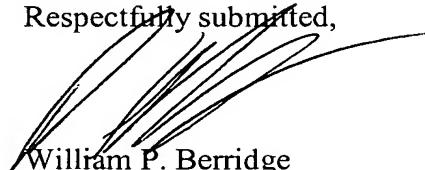
Dickey fails to teach and would not have rendered obvious the claimed structure of independent claim 1. In Dickey, the diameter of the bore is 0.060 to 0.35 inches (1.524 to 8.89 mm) (see claim 6). The diameter of the small holes is 0.005 to 0.092 inches (0.127 to 2.3368 mm) (see claim 5). Thus, both diameters are much smaller than those of claim 1. Dickey also does not disclose having the total of cross-sectional areas of the plurality of the small holes larger than the cross-sectional area of the bore, as recited in independent claim 1. As discussed above, this structure is unique and provides the advantages discussed above and in Applicants' application.

For at least these reasons, independent claim 1 is patentable over Dickey. Claims 3-6 depend from independent claim 1 and are patentable for at least their dependency on independent claim 1, as well as for the additional features they recite. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Transmittal of Power of Attorney and Statement Under 37 CFR §3.73(b)
General Power of Attorney

Date: April 20, 2010

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